

October 18, 1963

Statement of
Mr. James E. Webb
Administrator
National Aeronautics and Space Administration
before the
Subcommittee on Independent Offices
Senate Committee on Appropriations

Mr. Chairman and members of the Subcommittee:

We appreciate the opportunity to appear today to present NASA's request for appropriations for Fiscal Year 1964, and to report on the nation's investment in aeronautical and space research and space exploration.

As I am sure you know, this month marks the fifth anniversary of the National Aeronautics and Space Administration, which was established in 1958 as an organized national effort to master the space environment and use it.

The program was undertaken in the face of a new Communist threat to our national security and to our position as leader of the Free World. It was also undertaken on the assumption that the ability to operate in this new environment would produce scientific and economic benefits beyond our capacity to foresee.

Five years ago the United States could only be characterized as a second-rate power in space. Today, because we have

carried out a sustained and driving effort, we have overcome the Soviet lead sufficiently to permit us to negotiate space matters from a position of strength.

The main question which faces this committee, and the nation, today is whether we will maintain the effort that gives us our position of strength--whether we will continue to move ahead to insure that the United States will not forfeit its leadership in this important, indeed vital, new arena of human activity.

Mr. Chairman, the Congress recently answered this question affirmatively when it authorized NASA appropriations of \$5.35 billion for Fiscal Year 1964. True, this is about \$350 million less than the \$5,712 million recommended in the President's budget. To carry out an overall program consonant with the nation's needs within this amount will require some drastic changes from the program as contemplated in the President's budget, but we believe we can find a way to adjust to this level of funding for 1964 and still move forward toward the achievement of our national goals in space, assuming that essentials will be funded in 1965. Under some conditions, I feel I must say to the subcommittee, the best policy may turn out to be a Presidential request for supplemental funds for 1964.

During the first five years of the NASA program, the nation has already invested about \$7 billion of the \$35 billion total estimate for expenditures through the end of this decade. This total figure for the decade, I should note, includes the \$20 billion estimated for manned space flight, and accomplishment of the national goal of using a team of American Astronauts to explore the moon within this decade.

With your permission, Mr. Chairman, let me review briefly some of the benefits which this investment has yielded.

When the Soviet Union orbited Sputnik I in 1957 it was immediately apparent that they possessed a booster with vastly greater thrust than any of ours. In the five years since 1958 with the resources provided by the Congress, and as a result of a driving effort on the part of an American government-industry team, we have made great progress toward overcoming this deficiency. Saturn I, a $1\frac{1}{2}$ million pound thrust booster more powerful than any other known to exist in the world, has had four successful flight tests. It will be flown again later this year with its second stage. We have placed under contract, and are well along with the development of Saturn V, the $7\frac{1}{2}$ million pound thrust booster which will be used for extensive

operations near the earth and will send the first American explorers off to the moon.

Substantial progress has also been made in manned spacecraft development which will account for about \$7 billion of our space investment during the decade. In the Gemini program, being carried out in cooperation with the Air Force, a two-man crew will be able to remain in orbit around the earth for up to two weeks. In Apollo, a three-man crew will be able to remain in orbit around the earth for up to two months, and ultimately escape the gravity of the earth to depart for exploration of the moon.

Mr. Chairman, it is particularly important to note that prior to the lunar expedition itself, we will obtain extensive experience in near-earth manned operations, including the techniques of effecting a rendezvous and joining space vehicles traveling at 18,000 miles per hour in orbit. While the moon is the objective of the Apollo program, most of the effort required to reach it will have been expended on the earth or near the earth long before the first astronauts set off on that journey.

Specifically, our astronauts are scheduled to spend about 2,000 hours in near-earth orbital operations and maneuvers before the first flight takes off to the moon. They will orbit

the earth more than 1,300 times, learning to maneuver spacecraft in flight. Two thousand hours in orbit, Mr. Chairman, is a vast amount of experience when you consider that the total flight time of all the astronauts in the Mercury program was less than 55 hours.

All of this operational experience will be of value to the nation for whatever purpose national security or otherwise that our future interests may require. The same is true of the ground facilities which are being developed. During the decade some \$3 billion will have been invested in new environmental chambers, test stands and facilities to fabricate, assemble, test, launch, and control the boosters and spacecraft which will enable the nation to accomplish its space missions for many years to come. These are basic resources which the nation must build if it is to maintain a position of strength in the space environment.

While developing these resources for the present and the future, NASA has achieved a steadily increasing competence and reliability which has resulted in many specific accomplishments of great importance.

In 1958, the United States had five successful flights but for each success we had two failures. By 1961, out of 54 flights, we had a success ratio of almost five successes for every failure,

or, 83 per cent. In the first eight months of this year every NASA launch has been successful, with the exception of one Scout rocket launched from Wallops Island.

In the manned Mercury program, now concluded, six astronauts were successfully sent into space, giving us significant knowledge about the ability of man to operate in that hostile environment.

We successfully launched the first Orbiting Solar Observatory, which for fourteen months has been providing much valuable knowledge about the emission of energy from the sun.

Mariner II, the first successful attempt to reach Venus, proved our ability to correct the course of a space vehicle in flight. This spacecraft returned important scientific information to the earth from a distance of 27 million miles, using only $3\frac{1}{2}$ watts of power.

The first international satellites, Ariel and Alouette, launched in cooperation with the United Kingdom and Canada, were successfully placed in orbit.

Seven Tiros spacecraft were launched, without a failure, and this meteorological satellite has proven so successful that it is now considered operational by the Weather Bureau.

In aeronautical research the X-15 research aircraft exceeded all of its design goals.

You have also seen successful demonstrations of international communications via Telstar and Relay, and with Syncom II we have made a further advance by placing a satellite in synchronous orbit about the earth. This was unquestionably the most significant demonstration of precise guidance and control yet conducted in space.

Mr. Chairman, this is but a sketchy review of the nation's accomplishments in space. It seemed appropriate, as we move into the second five years of the NASA space effort and consider our future investment in this activity, to give the committee an accounting of the returns which have been received on expenditures which have already been made.

Mr. Chairman, the \$5.35 billion authorized by the Congress for Fiscal Year 1964 constitutes the minimum appropriation which will enable NASA to maintain our momentum, to sustain our ongoing program at an optimum pace and to achieve our stated national objectives in space. We urge you to approve an appropriation of the full authorized amount. If you take this action, on the basis of presently authorized programs, the funding rate will also need to be at about the same level requested by the President for Fiscal Year 1964, or \$5.7 billion in Fiscal Year 1965 before tapering off in following years.

Of course, this would not be true if it is concluded that the national interest requires implementation of new programs not yet underway.

An obligational level of \$5.35 billion for Fiscal Year 1964 is within the \$20 billion estimated for the manned space flight program for this decade, and within the estimated total of \$35 billion within the decade for all civilian space purposes. The program has been worked out in close coordination with the Department of Defense as far as the overall mutual national space effort is concerned, and we have a clear understanding with the authorization committees of the Congress that any important changes in our programs or reprogramming will be thoroughly discussed with them before they are implemented.

Mr. Chairman, from our experience with this program, the importance of maintaining a sustained effort cannot be stated too strongly. To insure United States pre-eminence in space, to obtain the economic and scientific benefits which will flow from space research and exploration, and do it at the minimum cost to the United States we must not proceed on a stop-and-go basis.

Stop-and-go programming is costly and inefficient. And where vital interests involving the nation's security and its capacity for Free World leadership are concerned, it could well

be of the most serious consequence.

Mr. Chairman, as strongly as I can, I urge that the committee approve a Fiscal Year 1964 budget for NASA equal to the full amount already authorized by the Congress.

Thank you for your consideration. That completes my prepared statement.